



Promised Land: Settlement Schemes in Kenya, 1962 to 2016

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ABSTRACT

Smallholder settlement schemes have played a prominent role in Kenya's contested history of state-building, land politics, and electoral mobilization. This paper presents the first georeferenced dataset documenting scheme location, boundaries, and attributes of Kenya's 533 official settlement schemes, as well as the first systematic data on scheme creation since 1980. The data show that almost half of all government schemes were created after 1980, as official rural development rationales for state-sponsored settlement gave way to more explicitly welfarist and electoralist objectives. Even so, logics of state territorialization to fix ethnicized, partisan constituencies to state-defined territorial units pervade the history of scheme creation over the entire 1962–2016 period, as theorized in classic political geography works on state territorialization. While these “geopolitics” of regime construction are fueled by patronage politics, they also sustain practices of land allocation that affirm the moral and political legitimacy of grievance-backed claims for land. This fuels on-going contestation around political representation and acute, if socially-fragmented, demands for state-recognition of land rights. Our findings are consistent with recent political geography and interdisciplinary work on rural peoples' demands for state recognition of land rights and access to natural resources. Kenya's history of settlement scheme creation shows that even in the country's core agricultural districts, where the reach of formal state authority is undisputed, the territorial politics of power-consolidation and resource allocation continues to be shaped by social demands and pressures from below.

1. Introduction

Land politics looms large in the dynamics of state formation, economic development, and electoral politics in African countries; nowhere is this more true than in Kenya. One of the most-studied aspects of land politics in Kenya is postcolonial smallholder settlement scheme creation, epitomized by the best-known of these, the Million Acres Scheme, initiated in 1962. Smallholder settlement schemes played a central role in Kenya's transition to independence, helping to de-racialize land ownership in the former “White Highlands” and offering land to many who had been displaced in the 1950s struggles against British colonial rule. Land transfers via the settlement schemes were linchpins in the political coalitions and economic development strategies that brought Kenya peace and prosperity in its first 25 years of statehood, and they figure prominently in studies of the political economy of Kenya in the 1960–1980 period. In the mid-1980s, however, the settlement scheme programs dropped off the scholarly agenda. Political scientists turned their focus to elections, corrupt land-grabbing, and the land-related violence that has attended Kenya's disputed elections. With the neoliberal turn in policy

making, applied economics also shifted attention away from state-led land settlement and rural development. Indeed, the literature on government settlement schemes in post-1980 Kenya is so scarce that many believe that the era of official scheme creation came to a close around 1982. The reality is quite the opposite.

Drawing on new government data that we have georeferenced and mapped, this paper analyzes settlement scheme creation over the entire 1962–2016 period. We show that almost half of all of the approximately 530 settlement schemes existing in Kenya today were created *after* the 1980s. Indeed, a quarter of these were created *after* 2000, accounting for 22% of all land allocated over the entire 1962–2016 period. Leveraging these new empirics, we show that the creation of new smallholder settlement schemes under the auspices of the Ministry of Lands has remained a central pillar of the Kenyan government's efforts to manage problems of landlessness, land hunger, and internal displacement. By official count, almost 300,000 families have been settled on 1,280,000 ha of land (3.1 million acres) since 1962. In mapping the settlement scheme data for the entire time period, we combine spatial and scalar information to highlight the tight and on-going connections between

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land allocation, patronage, and territorial politics across geographical scales, or levels, of the Kenyan polity.¹

The paper makes three contributions. Our central empirical contribution is the first systematic documentation of settlement policy over almost six decades of postcolonial history, and a dataset that will enable researchers to apply new methods and data to answer old and new questions about settlement's logics and effects. Our main substantive contribution arises from the fact that we can offer an analysis of settlement scheme creation, dynamics, and long-term legacies with more temporal and spatial precision than what is available in existing work. This new analysis of settlement policy grounds our theoretical contribution. The analysis highlights the extent to which official government programs to allocate land to farmers have been structured by the short-term logics of patronage politics, as other analysts have emphasized, as well as by longer-term territorial logics at the regional and national levels.² Territorial politics as a state-making practice, as theorized by [Vandergeest and Peluso \(1995\)](#), for example, involves subdividing territory at different political scales according to rules of resource access, assigning rights to land within particular jurisdictions and bounded areas as a means of developing political relations between central authorities and settler populations, and accentuating the territorial definition of social groups.³ These are prominent features of the Kenyan case. Such policies and practices were part of the basic toolkit of territorial administration and rural development policy in many countries of postcolonial Africa in the 1960s and 1970s, and continuation of such practices well *after* that period is not unique to Kenya. Theorizing land policy in these terms underscores the links to geopolitical practices of state- and subject-formation which are on-going in many African countries, often in the core agricultural regions of national economies.⁴

Tracking Kenya's settlement scheme policies over time contributes to deepening theories of state territorialization by identifying ways in which societal contestation has helped to drive this process. Territorializing state practices observed in Kenya have been shaped by acute, if socially-fragmented, demands for state recognition of land rights in ways that are similar to those emphasized by [Lund \(2020\)](#) and others studying claims for land rights in other parts of the world.⁵ As in many African countries, state allocation of farmland in Kenya remains a central component of a contested social contract that binds the postcolonial state to citizens ([Boone, 2012, 2014](#)). Such social contracts work to legitimate social demands and mobilizations for land access and rights, as well as to legitimate the use of state power to allocate land to favored or deserving social collectivities. This means that in Kenya as elsewhere, a focus on state territorialization, even in geographic domains firmly within the reach of formal state authority, is incomplete without consideration of social drivers not entirely within state control ([Joireman, 2000, 2011](#); [Badiy, 2013](#); [Lund & Boone, 2013](#); [Moore, 2005](#); [Peluso, 2018](#); [Yoder & Joireman, 2019](#)). Links between land, territory, political identity, and social recognition help to account for the on-going and often conflictual politicization of land issues. These links are clearly visible in contemporary land policy debates in Kenya and in many other African countries.

The analysis is developed as follows. To begin, we present the two new datasets that are the basis of the analysis, map the settlement schemes, and situate the history of scheme creation in a broad periodization of Kenya's postcolonial political trajectory. The data offer a level of

empirical specification, geographical precision, and historical coverage of Kenya's official settlement scheme programs that has not been possible until now. We show that while there have been stark changes in the Kenyan government's economic and political rationales for settlement scheme creation over time, the main tenets of our territoriality-focused argument hold for the entire 1962–2016 period. At the same time, government policy and practice has itself been shaped by land hunger and citizens' claims for state recognition of rights to land.

Subsequent sections of the paper develop our main arguments over the course of three time periods: first, the 1962–1979 period of the presidency of Kenya's founding leader, Jomo Kenyatta; second, the 1980–2002 period of rule by Daniel arap Moi; and third, the post-2002 period under presidencies and coalition governments of the multiparty era. The conclusion draws parallels to settlement scheme policies employed in recent decades in other African countries, underscoring the fact that the fraught nexus between land politics and contested strategies of state territorialization is neither unique to Kenya nor a thing of the past.

2. Using new data to track scheme creation over time

Our analysis of Kenya's official settlement scheme policies from independence to 2016 is based upon two sources of data. The first is a Ministry of Lands and Physical Planning (MoLPP) dataset on Kenyan settlement schemes ([MoLPP, 2016](#)), which was presented in a Kenya National Land Commission publication authored by [Lukalo and Odari \(2016\)](#).⁶ The second data set is a georeferenced settlement scheme map layer constructed by the authors from approximately 1500 digitized Registry Index Maps (RIM) obtained from Survey of Kenya in 2018, covering 365 out of the 533 schemes included the MoLPP dataset. We catalogued, digitized and georeferenced the maps, created a map layer in ArcMap, and joined settlement scheme polygons to scheme attributes extracted from MoLPP dataset ([Lukalo et al., 2019](#)). We thus combine scheme location and attributes to analyze the timing of scheme creation, the allocation of schemes across districts, and scheme type over time.⁷

Some limitations of the data constrain the scope of the arguments that we can advance here. We do not have Registry Index Maps for 168 of the 533 settlement schemes included in the dataset. Of these, 73 are in the former Coast Province, 32 are in Eastern, and 13 are in Nakuru in Rift Valley Province. Many of these schemes are in legal limbo ("caveated") due to legal disputes, including incomplete or disputed forest degazettement.⁸ These are represented on Map 1 and Map 2 as dots positioned at the approximate location of the scheme in question.⁹ Areas shaded in grey on Map 1 (in Nakuru) and Map 2 (in Makueni) represent zones in which many unmapped schemes are clustered. There are two additional sources of imprecision and ambiguity in the data. First, there are some inconsistencies and ambiguities in the data regarding year of scheme creation, registration, and population numbers, as earlier analysts using MoLPP data have observed.¹⁰ Second, the data do not indicate the manner of acquisition or the details of distribution of the land set aside for settlement, although the timing of scheme creation and scheme location do allow for some inference on these fronts. Our datasets do not contain any individual- or household-

⁶ The National Land Commission was established under Article 67 of the Constitution of Kenya (2010) and the National Land Commission Act 2012. See [Boone et al. \(2019\)](#) and [Manji \(2020\)](#) on the NLC.

⁷ Our analysis does not include land buying companies, irrigation projects run by the National Irrigation Board, post-2002 schemes for Internally Displaced Persons, or ad hoc land allocations by politicians that were never incorporated into the MoLPP record.

⁸ Degazettement is the process by which protected or officially-designated forest land is converted to a use category that allows for agricultural settlement.

⁹ We used dots of uniform size to avoid the impression that we are approximating actual scheme shapes.

¹⁰ See [Leo \(1981\)](#) and [Mbithi and Barnes \(1975\)](#). On the Coast, see [Kanyinga \(2000\)](#) and [Hoorweg, Niemeijer, Foeken, Okello, & Veerman, 1991](#).

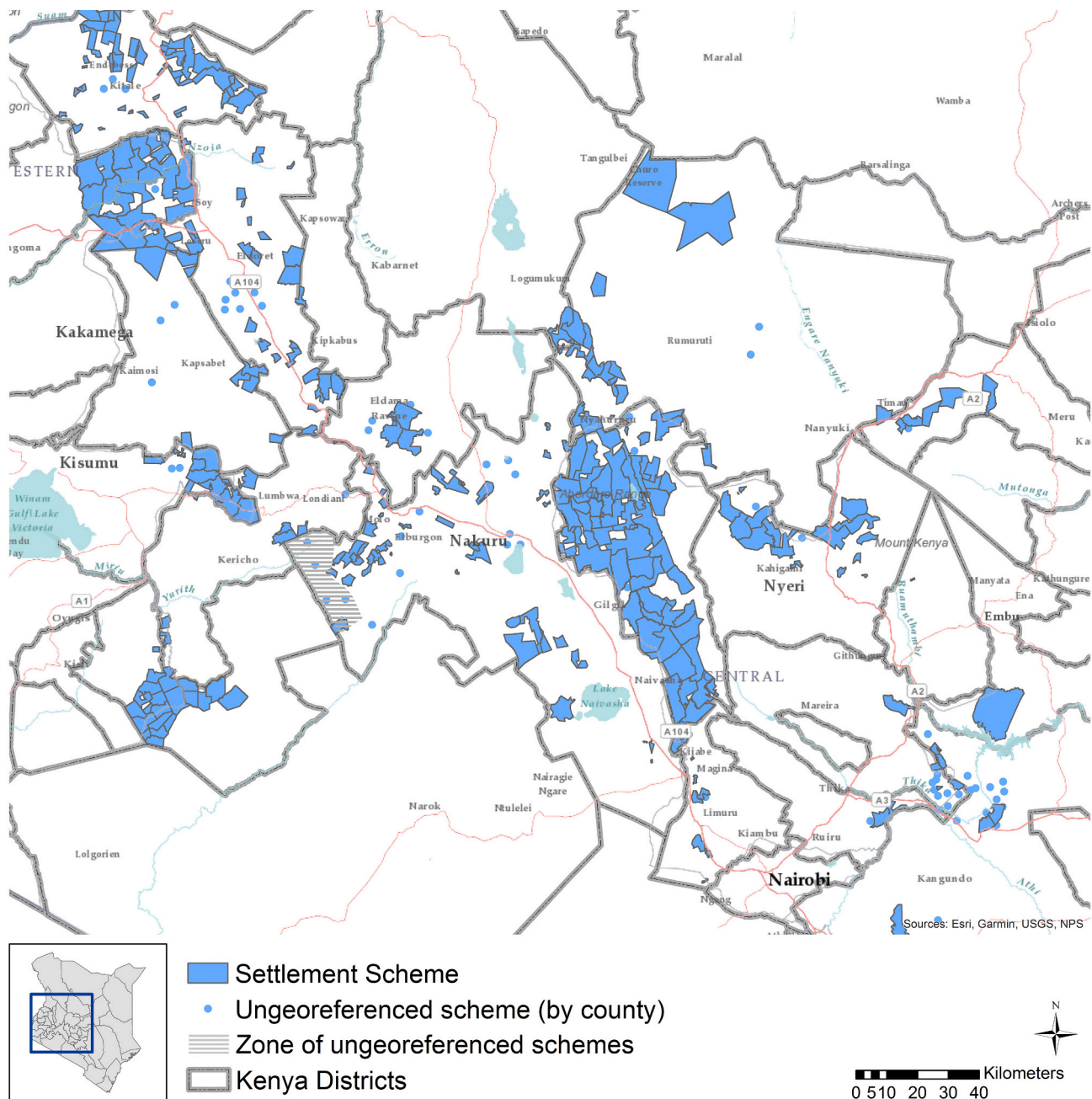
¹ As [Agnew \(1996\)](#) has argued for electoral geography.

² As emphasized by [Médard \(1999\)](#) and [Boone \(2014, p. 39–43\)](#). For some analogous cases outside of Africa, see [Lund \(2011\)](#), [Haklai and Loizides \(2015\)](#), and note 48.

³ These politics are theorized in even more general terms by [Sack \(1986, 140–7\)](#), for example.

⁴ See for example [Munro \(1998\)](#), [Sachikonye \(2003\)](#), [Lavers \(2018\)](#), and [Boone \(2014\)](#).

⁵ See for example [Lukas and Peluso \(2020\)](#).



Map 1. Smallholder Settlement Schemes in (former) Western, Nyanza, Rift Valley, and Central Provinces, 1962–2016.

Source: Authors' data from MoLPP (2016); Scheduled Areas boundaries from Jedwab et al. (2017). Map by Stephan Kyburz

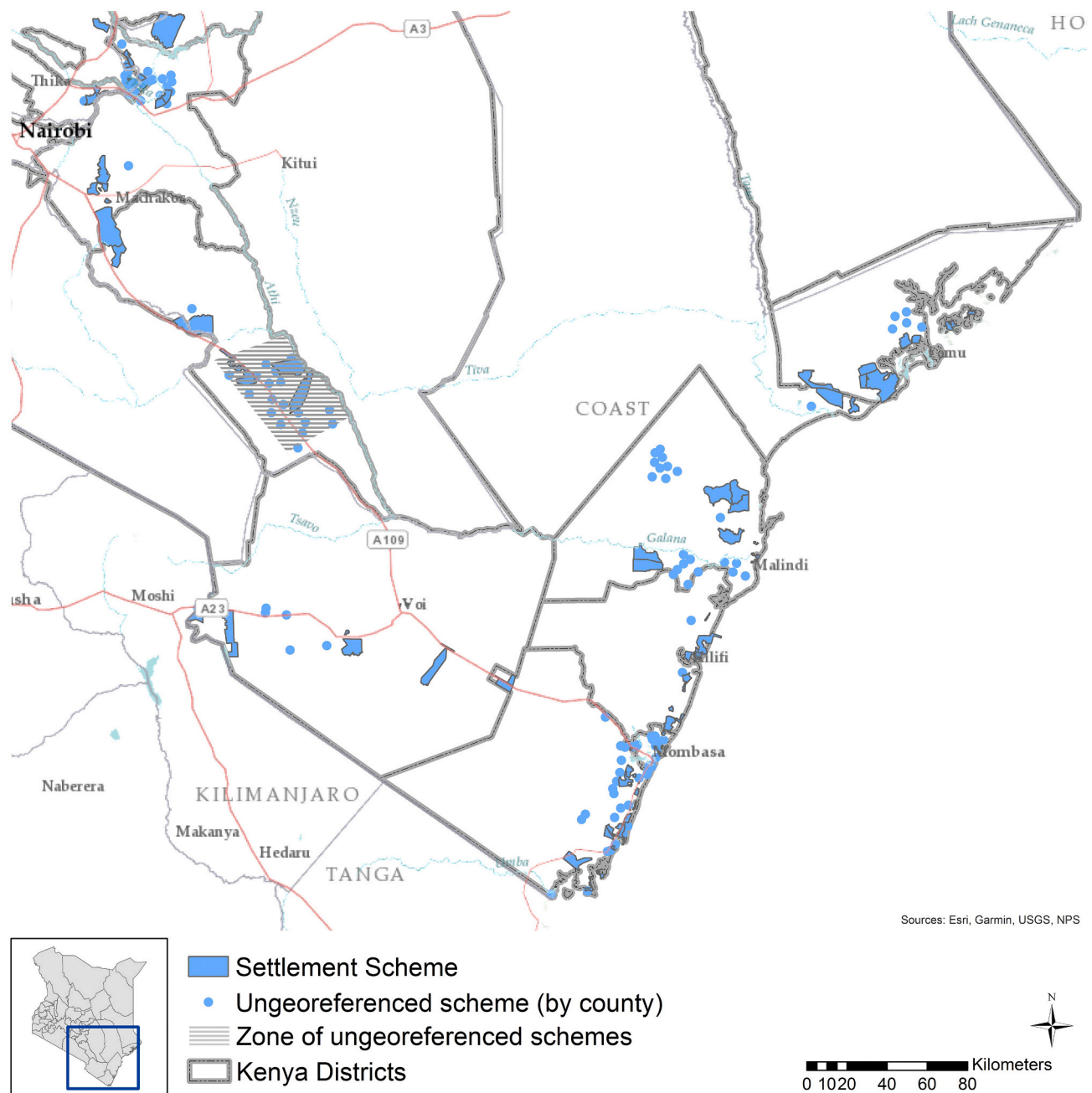
level data, or any data on the history of individual plots (including information on plot fragmentation, amalgamation, inheritance, sale, or titling). Even with these limitations, these data make it possible to map scheme geography over time, and thus to place settlement scheme creation over the 1962–2016 period in the context of the broader macropolitical currents that have defined Kenya's national trajectory.

Maps 1 and 2 present our geocoded dataset of the MoLPP-recognized settlement schemes created in Kenya over the course of the 1962–2016 period. These are the first up-to-date maps of scheme geography since the publication of maps by Odingo (1971), von Haugwitz (1972), and Harbeson (1973). The maps color-code schemes to distinguish between those created pre-1980 (in blue) from those created post-1980 (in red). For schemes without Registry Index Maps, we use blue and red dots, rather than polygons representing scheme size, to indicate approximate scheme locations. The solid grey shading across much of Map 1 covers the former Scheduled Areas, or ex-"White Highlands." Areas defined by

horizontal grey hatch lines on both maps are zones in which many caveated schemes (lacking official maps) are concentrated.¹¹

We use these data to develop an argument about constancy and change over time in the goals of settlement scheme policy and practice. Some changes are stark. In the 1960s and 1970s, Kenya's settlement programs were concentrated in areas formerly allocated to white settlers (the Scheduled Areas on Maps 1 and 2). These schemes, depicted in blue, were implemented under the government of Kenya's founding president, Jomo Kenyatta. The Kenyatta-era schemes aimed to achieve the twin goals of sustaining and intensifying agricultural production

¹¹ These are "caveated" schemes or those for which official maps are missing. While the schemes exist on the ground, their legality is contested. Note that the maps are not drawn at exactly the same scale: the land area described in Map 2 is larger than the land area depicted in Map 1.



Map 2. Smallholder Settlement Schemes in (former) Eastern and Coast Provinces, 1962 to 2016.

Source: Authors' data from [MoLPP \(2016\)](#); Scheduled Areas boundaries from [Jedwab et al. \(2017\)](#). Map by Stephan Kyburz

through the development of the smallholder or peasant sector, on the one hand, and taking the edge off politically-destabilizing land hunger (and the threat of radical land politics), on the other hand. As scheme creation slowed dramatically in the 1980s, both goals were arguably achieved to a considerable extent in Central Province and along the edges of what was then Rift Valley Province,¹² even though there were disappointments around the agricultural development goals of settlement, and simmering expressions of discontent from the land-hungry and dispossessed. High rates of economic growth and Kenya's one-

party political regime, instituted de facto in 1964, worked to tamp down overt expressions of political unrest.

Settlement programs came back onto the Kenyan policy agenda in force in the 1990s, in the context of economic slump and the reintroduction of multiparty political competition. The coming to power of Daniel arap Moi, who had assumed the presidency in 1979, marked a shift in the regional balances of power within Kenya. His government initiated new waves of scheme creation in the Rift, Eastern and Coast Provinces, all depicted in red in Maps 1 and 2. The agricultural development goals that informed much of official settlement policy in the earlier period fell to the wayside, giving way to an ad hoc approach to the creation of new schemes under MoLPP auspices. These aimed to take

¹² The 2010 constitution replaced Kenya's seven provinces with 47 counties which were drawn largely along the lines of the former second-level (district) administrative boundaries.

the edge off land hunger and demands for land rights legalization in politically strategic hot-spots, to defuse violent unrest around disputed land occupations, and to build political support for the government in Moi's electoral strongholds.¹³

2002 to 2016 is the era of transition to multiparty competition under Mwai Kibaki, and the 2008 establishment of a coalition government under Uhuru Kenyatta, who remains president in 2021. After 2002, settlement schemes were used again to assuage land hunger, this time in large part by governments attempting to regularize and legalize past (informal or quasi-legal) allocations to achieve a durable settlement to land and territorial conflicts in the country's most politically-volatile and electorally-contested districts in the Rift Valley. Almost all the schemes of this era are located on Map 1. Settlement scheme allocation in this period appears to have been guided by a strategy of political zoning to sort populations into ethnically-defined constituencies.

Successive regimes used settlement schemes in ways that reinforced the practice of demarcating ethnic territories as political strongholds for national rulers. This process has an explicitly scalar quality whereby the allocation of farms to individual settler families is discursively constructed by government leaders as the granting of an entire settlement scheme to a particular, territorially-defined ethnic community. Most of the schemes are, in turn, nested within electoral districts that make up regional (provincial) political strongholds of the ruling party. Settlement scheme policy and practice have fostered and helped to sustain a social contract that works to legitimize the claims of territorially-defined (ethnic) communities to land entitlements and territory. Yet this holds unevenly. It has been honored for communities that are close to power more so than for political out-groups and those at the territorial margins of the state. These dynamics inscribe land politics in larger contested geographies of political representation.

3. Settlement schemes from independence to 1979: the Kenyatta era

Kenya's land politics and territorial divisions are rooted in the colonial period.¹⁴ Establishment of a protectorate and a colonial state was accompanied by designation of most of Kenya as Crown Land, including much of the land in the 10 mile strip along the Kenyan Coast that was governed as a protectorate conceded to the British by the Sultan of Zanzibar. In the prime agricultural zones of the Rift Valley, territory designated as the Scheduled Areas or "White Highlands" (about 2.9 million hectares) was demarcated and alienated to white settlers who acquired private leasehold or ownership rights to vast tracts of land.¹⁵ The remainder of the colony was divided into approximately ten "African Land Units" or reserves, defined by the state as native homelands for separate African populations based on their state-recognized ethnic identities.¹⁶ In these ethnic reserves, those recognized as indigenous held land under what the state recognized as customary tenure.

White settlers in the Scheduled Areas created large ranches, agricultural estates, and mixed farms. As Kanongo (1987) and other scholars of colonial Kenya have explained, much of the land in the Scheduled

Areas was underutilized, forest or fallow, left in reserve, or occupied and farmed by Africans who lived as "squatters" on the land in exchange for labor services to the European settlers. Many so-called squatters were natives of densely populated Central Province and the Kikuyu Reserve. In the 1940s and 1950s, as the Kenyan anti-colonial movement began to coalesce, an insurgency emerged under the name of Land and Freedom Army (or Land Freedom Army) with the support of many Kikuyu in the Rift Valley, including the squatter populations and others displaced by colonial land policies in the post-WWII years. As its name implied, this insurgency (dubbed the Mau Mau by Kenya's settler community) aimed to take back land alienated by the colonial government.

The British government and the settler state unleashed a brutal counterinsurgency campaign. They also undertook a major land tenure reform within the Kikuyu Reserve, conceived under the Swynnerton Plan, which aimed to consolidate landholdings (hitherto held under a fragmented tenure system) into larger parcels held by male adults deemed to be loyal to the state. Land consolidation further inflamed land grievances. Those absent from Central Province and/or supportive of the insurgency lost their claims to family lands in the reserve, as did many Kikuyu of low social status. When Jomo Kenyatta emerged as the dominant nationalist leader in Kenya in 1960, he claimed to champion the interests of the Kikuyu people (as well as those of other communities of Kenya). He promised to address Kikuyu land grievances as well as land grievances throughout the colony.

With the approach of independence, the settler state and the British government stepped in to protect the interests of Kenya's white land-owners by creating a land market for white settlers who wanted to sell their agricultural holdings, and supporting land values for those who wanted to stay (Leys, 1975; Leo, 1978, 1981; Wasserman, 1976). The buyer of most of these properties was the Government of Kenya, using loans provided by the British Government and the World Bank. Through this process, the Kenyan state acquired about half of the land in the (ex-) Scheduled Areas. The story of land distribution under the settlement schemes in Kenya in the 1960s and 1970s is largely the story of what happened to these lands.

The politics of land distribution in the 1960s was defined by efforts to defuse the internal insurgency and establish and consolidate the Kenyatta regime.¹⁷ Reallocation of parts of the former White Highlands via smallholder settlement schemes was a key resource in this process. Between 1963 and 1971, approximately half of the land that had been acquired by the Kenyan government was parceled up in settlement schemes created principally for Kenyan smallholders.¹⁸ The official rationale and justification was to sustain and indeed propel agricultural development as small- and medium-scale African farmers took over former mixed farms, including land that had been underutilized or abandoned by white settlers. State-led agricultural development programs in Kenya in the 1960s and 1970s targeted the settlement schemes for state services and investment.¹⁹ At the same time, the rationale was explicitly political. Programs defused land hunger among the aggrieved Kikuyu constituencies who represented an acute political liability for Kenyatta regime, but also offered something to constituencies in the native reserves to the West of the former Scheduled Areas who also demanded restitution of alienated lands.

¹³ See for example Hoorweg, Niemeijer, Foeken, Okello, & Veerman, 1991, Leo (1981, 1984), Wasserman (1976), Kanyinga (2000), Klopp (1999, 2002, 2012), and Médard (1999, 2009, p. 47).

¹⁴ From the vast literature, see for example Sorrenson (1965), Harbeson (1973), Leys (1975), Leo (1981), Okoth-Ogendo (1981, 1991), Kanongo (1987), Lonsdale (1992), Ocho (2002), Anderson (2005), Branch and Cheeseman (2006), and Maxon (2016).

¹⁵ The Scheduled Areas covered 3,000,000 ha (about 7.4 million acres). About half was comprised of "mixed farms" with individual European owners. The remainder was mostly ranches and company-owned commercial estates and plantations. See Odingo (1971, p. 187) and Boone (2014, p. 139–157). Shafer (1967, p. 21) defines the "White Highlands" as the large farm sector included in the Scheduled Areas plus seven farms of 150,000 acres at Voi and 23 farms of 123,000 acres at the Coast.

¹⁶ That is, south of the arid Northern Frontier District.

¹⁷ To "alleviate overcrowding in the reserves," twenty schemes covering 51,888 ha and accepting 6231 settlers (i.e. households) were allocated before Kenya's independence in 1963. In the 1950s, more than 50,000 ha at the Coast was distributed as settlement schemes (Hoorweg, Niemeijer, Foeken, Okello, & Veerman, 1991, p. 17).

¹⁸ Approximately 25% of the ex-Scheduled Areas was acquired by government but not transferred via the settlement schemes. Of this, much was allocated as large holdings to members of the government elite. Some remained government property, including as Agricultural Development Corporation (ADC) farms.

¹⁹ See for example Leo (1984), Hoorweg (2000), Hoorweg, Niemeijer, Foeken, Okello, & Veerman, 1991, Leys (1975), Bates (1981), and Ocho (2002).

A political re-zoning of the national territory preceded the redistribution of the former European-held land. The 1962 Kenya Boundaries Commission redrew the boundaries that separated the Scheduled Areas from the Kikuyu, Luo, Nandi, Kisii, and Luhya native reserves. By moving the boundaries, large chunks of the ex-White Highlands were added to the former native reserves. Much of this was allocated as settlement schemes “for the Luo,” “for the Luhya,” or “for the Kisii” in the districts that overlay the former reserves. A settlement scheme bloc centered on the town of Sotik was divided between Kisii District and Bomet District. A large swath of the ex-Scheduled Areas was transferred from the Rift Valley Province to Central Province, to be allocated as the Nyandarua settlement schemes for the Kikuyu. Further East, ex-settler holdings were incorporated into the new Eastern Province to be resettled as Machakos District schemes. Allocations of land within the newly redrawn district boundaries went to territorially-defined ethnic groups, reinforcing group claims to state-allocated land within de facto “homelands.”²⁰ Most of the settlement schemes had a clear ethnic identity.

Most of the schemes of this era were allocated in blocs that are visible in Map 1: these are the Nyandarua schemes in Central Province, the Western Province schemes in Kakamega and Lugari Districts, Muhoroni schemes in Nyanza Province, and the Kisii District bloc on the west side of the Sotik bloc.

Scholarly analysis of Kenya's settlement schemes has focused extensively on the 1960s and 1970s settlement schemes created in the former Central and (to a lesser extent) Rift Valley Provinces. The first programs in the former White Highlands were part of the Million Acre Settlement Scheme, which involved the purchase from European settlers and transfer to African farmers of about 1.2 million acres of land. Its 84 separate schemes of about 1250 ha each were designed as either “low density schemes,” divided up into parcels of 8–16 ha for commercially-oriented farms that employed wage labor, or “high density schemes” that were subdivided into parcels of 4–6 ha intended to be peasant farms that combined cash cropping and subsistence farming and relied mostly on household labor, supplemented in some cases by wage labor.²¹ Scheme beneficiaries were selected by government officials and appointees at the district level. Most allottees signed for loans advanced through the official Settlement Fund to cover part of the cost of their parcels. The loans were to be paid off from farm proceeds, culminating eventually in the issuance of land titles.²² The Kenyatta-era settlement schemes were structured by a patronage politics logic of transferring land to government-selected beneficiaries, as well as a logic of state territorialization that involved the segmentation of space to affirm ethnic territories and land entitlements.

Within two years of independence, the scope and purposes of the settlement scheme programs expanded. In 1965, a special Commissioner was appointed by the Ministry of Agriculture to direct the creation of new settlement scheme programs in the ex-Scheduled Areas of the Rift Valley and in Coast Province. New scheme types and allocation mechanisms emerged, especially for smallholder or peasant-type schemes to accommodate the landless, assuage land hunger, curb radicalization, and reward regime insiders. These new scheme types included the Haraka (“hasty” in Swahili) schemes established on abandoned or mismanaged freehold land that was occupied by squatters. Haraka schemes became a vehicle for land allocation in Coast Province, where bitter land

grievances fueled the political and territorial demands of regional constituencies who were increasingly marginalized in Kenya's post-1964 de facto one-party state (Willis & Chome, 2014; Willis & Gona, 2012). The Ministry of Agriculture took over abandoned or mismanaged freehold land in the 10-mile coastal strip, where much of the indigenous population lived as tenants-at-will on properties long-abandoned by Arab or Swahili landowners, or as squatters on state land. Between 1967 and 1970, the Ministry of Agriculture allocated 35,000 ha to about 5000 settlers (i.e. households), mostly as 4–5 ha parcels intended to support family-based farming.²³

Coast Province was also the site of large-scale conventional schemes in Lamu, Kwale, and Kilifi Districts (e.g. the 1973 Lake Kenyatta Settlement Scheme Phase I, 14,000 ha, 3500 settler households). These were designed to promote the in-migration of upcountry settlers, mostly Kikuyu and Luo. This stoked new resentments over post-independence colonization of Coast land by up-country Kenyans, in violation of the historical territorial claims advanced by Coast populations. Anger was compounded when established communities were displaced to clear the way for acquisition of private land holdings by members of the political elite, or for the development of tourism facilities (Kanyinga, 1998, 2000).

During the Jomo Kenyatta era, the settlement schemes in the ex-Scheduled Areas were the focus of official rural development programs targeted at smallholders and the “middle peasantry.” Much of the existing literature on the Kenyan settlement schemes hinges on the promises and contradictions of these policies. Multilateral and bilateral foreign aid funded the creation of many of the schemes in the ex-Scheduled Areas as well as those at the Coast, and these were prioritized in donor-funded agricultural development programs. In many schemes, farmers were obliged to join producer cooperatives, adhere to compulsory planting and marketing programs, use purchased inputs provided by cooperatives on credit, and sell to government marketing boards.²⁴ Within schemes, political leaders worked hand-in-hand with scheme administrators to select beneficiaries and mediate relations with the land and rural development bureaucracy, driving a process of ethnic clientelism that transferred land both to both smallholders and members of the expanding post-colonial government elite (Moskowitz, 2019).

Few land titles were allocated in the 1960s and 1970s. Most schemes remained unregistered, so landholders' rights to sell or transfer land were constrained. Tenure insecurity, combined with the on-going supervision of schemes and allottees by state agents, enhanced the utility of schemes in cementing political relationships between territorially-fixed communities and electoral constituencies, on the one hand, and state elites in land patronage roles, on the other. The first titles were distributed to settlement scheme allottees in 1978, shortly before Kenyatta died in office.

By the end of the 1960s, there were 180 discrete settlement schemes in Kenya, or one-third of the total number established between 1960 and 2016. These covered about 1.3 million acres. Scheme creation wound-down thereafter, with the early 1970s marking “the final phases of the British-financed buy-outs of mixed farms.”²⁵ By that time, 21% of the colonial-era Scheduled Areas had been redistributed to Africans under

²⁰ See Harbeson (1971), Leo (1981, p. 211; 1984, p. 111), McWilliam (1963, p. 68), Kanyinga (1998, 2000, 2009), Shafer (1967, p. 128), Wasserman (1976), Leys (1975), Ocho (2002), Médard (1996, 1999), and KLA & Kameri-Mbote (2019).

²¹ See for example Odingo (1971, p. 200–1), von Haugwitz (1972, 12), Harbeson (1973, p. 266–7), Moskowitz (2019), and Wayumba (2018).

²² Leo (1981) reports that allottees were charged 70% of the cost of the land. See also Harbeson (1973), Leo (1981), Leys (1975), and Muhia (1977). Eviction for loan default was not uncommon (Muhia, 1977).

²³ Under colonial rule, land titles granted by the Sultan of Zanzibar in the 19th century in Kenya's 10-mile coastal strip were honored by the colonial administration. The post-colonial state reproduced this land tenure regime, taking over Crown land as state land. As one scholar put it, indigenous populations found themselves dispossessed once again. About 75% of Kilifi residents today are legally considered to be “squatters.” See Cooper (1981), Hoorweg, Niemeijer, Foeken, Okello, & Veerman, 1991, and Hoorweg (2000).

²⁴ See Harbeson (1973), Bates (1981), and for the Coast, Hoorweg, Niemeijer, Foeken, Okello, & Veerman, 1991 and Kiuru (2009).

²⁵ Leys (1975, p. 228, sa. p. 75, p. 84). Much of the continuing in-migration of new farmers to Rift Valley Province was organized through Land Buying Companies wherein single entrepreneurs, often politicians, acquired large parcels (usually using government loans) and divided them up for sale to groups and individuals (Kanyinga, 2009; Onoma, 2010).

the official settlement programs.

In 1979, at the close of the Kenyatta era, there were a total of 237 settlement schemes covering 585,155 ha (1.4 million acres). Approximately 76,600 households had been settled on the land. An estimated household size of 10 would mean that the original population of the settlement schemes was about 766,000 people,²⁶ a significant proportion of Kenya's total population of 11.2 million at the time.

Fig. 1 captures the magnitude of this effort in terms of the ebb and flow of official settlement scheme creation over the 1962–2016 period. It shows *inter alia* that scheme creation drops off dramatically in the 1970s (from a total of 494,000 ha in the 1960s to 91,000 in the 1970s), surely prompting many analysts writing in the 1970s to mid-1980s, such as Colin Leys (1975, 228), to conclude that the settlement scheme phase of Kenya's land history was coming to a close. Fig. 1, however, tells a different story. Land allocations resume in force in the 1990s.

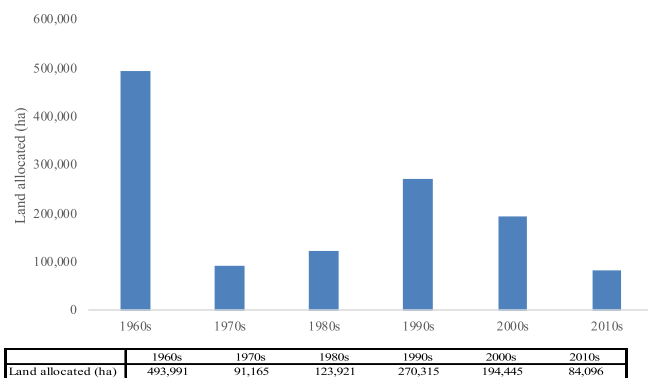


Fig. 1. Land allocated by decade (in ha), 1960s through 2016.

Source: MoLPP (2016); Lukalo & Odari (2016).

4. Settlement and resettlement in the Moi era: 1979–2002

Transition to the Presidency of Daniel arap Moi in 1979 brought about a shift in the regional balances of power within Kenya. As the Moi government struggled with the twin challenges of economic stagnation and the return to multiparty elections, government land activism was key to the regime's quest for "a renewed sense of legitimacy" (Médard, 2009, p. 49). There were marked shifts in the modes and geographic targeting of land distribution. Within the ex-Scheduled Areas, the original stock of high-potential agricultural land was largely exhausted. The Moi regime turned to public lands as a new land bank from which to create settlement schemes. The ethno-regional groups that had been the leading beneficiaries of Kenyatta-era land allocations received little new land under Moi. Instead, the vast majority went to Kalenjin-aligned ethnic groups in Moi's territorial stronghold, Rift Valley Province, and to Eastern Province, a "swing region" not rigidly aligned with either the past or present ruling group, and where the government hoped to win electoral support. Settlement scheme allocation in the Moi era in Coast Province appears most heterogeneous in terms of its guiding objectives. The Coast was a politically sensitive and restive region that was regarded as a frontier for land acquisition by upcountry groups (Ciekawy, 1988; Hazlewood, 1985; Kanyinga, 2000; Mauney et al., 2019; Republic of Kenya, 2016). At the Coast, settlement scheme creation was aimed at defusing unrest generated by elite land-grabbing, building legitimacy for the government by acknowledging the historical claims of

those actually in possession of the land, and land colonization for economic development.

The scope of these initiatives is captured in Fig. 2. In the 1980s, only 124,000 ha of new land was allocated, and 70% of this was allocated before the end of 1982. Most was in the form of conventional schemes, and their location in Central and Coast Provinces is consistent with the priorities of the Kenyatta era.²⁷ Less than 1000 ha were allocated via official settlement schemes between 1985 and 1990. The pattern changes after 1990. In the 1990s and 2000s, there are large spikes in land allocated in Coast, Eastern, and Rift Valley Provinces. Thirty-six schemes (75,000 ha) were formalized in 2000–2002, in the run-up to the 2002 elections, accounting for 40% of the land formally allocated in the 2000s. In all, by the MoLPP data, 330,690 ha were allocated to 93,460 families in the Moi era of 1990–2002.

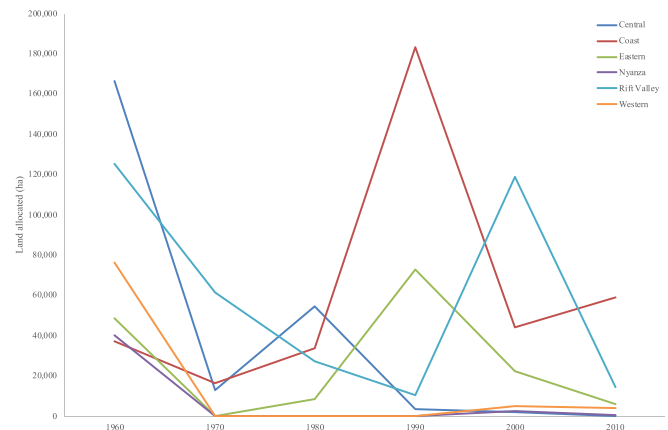


Fig. 2. Land allocated by province, per decade, 1960s to 2010.

Source: MoLPP (2016); Lukalo & Odari (2016).

New strategies of state-directed settlement and settlement scheme creation took shape in the mid-1980s. Kenyatta-era forest squatters were evicted from the Mau Forest by the government, starting in 1986. This land was re-occupied by Moi-aligned communities who claimed these lands as part of their historical territorial domain in the Rift Valley. There was extensive land-related election violence in 1991–1992 and 1997, much instigated by politicians and local officials. It targeted Kenyatta-era settlement scheme populations in the central Rift Valley, especially in Nakuru District (in Molo).²⁸ As Kenyatta-era settlers were displaced from electoral wards and constituencies that fell under the control of Moi-aligned politicians, Moi supporters took over the vacated farms.

In the 1990s, Rift Valley forest reserves around Londiani, Elburgon, and the Mau Forest south of Njoro, and forest plantations in Uasin Gishu, were opened for settlement, creating a land frontier that Moi used to settle thousands of families from the Kalenjin communities that he cultivated as his political base. In Nakuru District, the government designated thousands of hectares of the Mau Forest Complex as settlement schemes in 1997. Settlers invoking the political protection of the government moved onto 5-acre plots in the Eastern Mau Forest in Kur-esoi North and South (Klopp, 2012; Ndungu 2004). In Uasin Gishu District, large numbers of Kalenjin squatters settled in the Anabkoi and Singalo forests. Ambwere (2003:13, 121) writes that in 1996 and 1997, over 8300 ha were turned into settlement areas in what had been forest watershed adjacent to Lumakanda settlement scheme. At Mount Elgon,

²⁶ Scheme planners in the 1960 and 1970s appeared to estimate 5 or 6 persons per settler household, not including workers and tenants living on each plot in this headcount. Observers (Leo, 1981) noted that these estimates were too low. Leo (1984, p. 164) counted between 12.1 (low density) and 13.3 (high-density) persons per holding on the two schemes he surveyed in Nyandarua in the 1970s (Passenga and O'i'Kalou West).

²⁷ Of 123,921 ha allocated in the 1980s, 55,000 ha were in Central, 33,000 were at the Coast (almost all in 1982), and 13,000 ha were in Uasin Gishu (in 1984 and 1985).

²⁸ See for example Anderson and Lochery (2008), Klopp (1999, 2002, 2012), Ouch (2002), Kanyinga (2000), and Médard (2009).

displacements and irregular land reallocations produced settlement schemes of dubious legal standing (Médard, 2009). Many de-facto schemes were brought under the purview of the Ministry of Lands, which worked ex post facto to ratify and stabilize these areal re-zonings and assignments of territory.

In the run-up to the December 2002 elections, the Moi government opened additional tracks of the Mau Forest Reserve in Narok for settlement. In 2001, 27.3% of the Southwest Mau Forest Reserve (22,797 ha) and 54.3% of the Eastern Mau Forest (35,301 ha) were degazetted, or removed from the protected forest reserve areas and made available for settlement. “This excision was [and remains] challenged in court and orders were given to stop it, but settlement went ahead and most of the area is now settled, although with varying densities” (UNDP/KWS, 2008).²⁹ Other public lands, including Agricultural Development Corporation (ADC) farms, were also turned over to create settlement schemes, including new conventional settlement schemes in Nakuru and the northern Rift districts of Trans Nzoia, Uasin Gishu, and Baringo. Landholdings carved from ADC farms were allocated to ordinary families in Moi’s ethno-regional constituencies, as well as to hundreds of regime officials and cronies, including MPs and judges, “often as political reward or patronage” (Ndungu, 2004, pp. 134–5).

In Eastern Province, where no new settlement schemes had been created since the 1960s, there was a major land allocation push via new settlement scheme creation as Moi sought to satisfy land hunger and solidify support in a swing region. Makueni District was hived off from Machakos district in February 1992, and before the end of the year 14,000 acres had been allocated as settlement schemes. By 2002, 73,000 ha had been allocated to 32,000 households in Makueni. This included the scheme with the highest recorded number of settlers in Kenya history: 3813 households in the 16,000 ha Nguu Ranch in Kibwezi, in 1994. In 1997, the *Kenya Hansard* reported that the Nguu Ranching Cooperative had been given to its members by a directive of the President, with the Settlement Fund Trustees charged with using the ranch to “resettle the landless.”³⁰ In 1995 and 1996, squatters invaded parts of the Ranch and were counted as plot claimants along with originally designated recipients, signalling the central government’s fragmented or limited mastery of processes of land mobilization and occupation.

Over half of all land allocated in Eastern Province in the 1990s (40,000 ha out of 73,000 ha) was allocated as *squatter schemes* in Makueni. Squatter schemes here as elsewhere in Kenya were designed to legalize the status of people already occupying the land by formally assigning plots to households. In the case of Makueni, this meant the legalization of spontaneous land occupations that had been on-going since the 1960s, as families moved south from the fertile but crowded areas in northern Machakos District, in some cases colonizing land from which local populations had been expelled during the colonial period. North and south of Kibwezi town, sisal plantations and mining sites had attracted workers from other parts of Kenya, especially Luo people from Western Kenya, who had settled on land in the surrounding areas over the decades (Mbithi & Barnes, 1975). Most of the land turned into settlement schemes was located near Kibwezi town (often in very small parcels of 1–2 ha) and to the south, along the border of East Tsavo National Park, including parts of the Ngai Ndeithia natural reserve (see Map 2). Makueni’s importance in the government’s electoral calculations may help explain the intensity of the official effort to respond to the desire for state-recognition of land rights by creating new settlement schemes in this district. Throup and Hornsby (1998) describe Makueni as a contested, peripheral zone for the ruling party, a district of “key marginal

constituencies” and “a crucial swing region” in the 1992 elections.³¹

At the Coast, schemes created on state land were used to resettle Coast populations that were displaced by a Moi-era “invasion” of politically-powerful land acquirers and the development of beach estates and resorts.³² As shown in Fig. 2, a total of 182,000 ha was allocated across 80 Coast Province settlement schemes (44,307 households) in the 1990s, more than twice the total allocated in the preceding 30 years. About 30,000 ha of this was allocated via squatter schemes, many of which offered very small plots of .02–.05 ha. These were essentially urban plots in Mombasa district and in the cities along the coastal highway. At the other extreme, very large schemes were created on state land in Lamu in 1996 (Lake Kenyatta Phase II settlement scheme, 6000 ha divided among 600 allottees), and Taita Taveta in 1997 (Lake Jipe scheme, 9000 ha allocated to 1438 settlers) in 1997. As in the 1970s, these accommodated influxes of upcountry settlers, mostly Kikuyu from Central Province, confirming state prerogatives over the control and allocation of land on Kenya’s geographic and social margins and, at the same time, generating more resentment among the original inhabitants over what they perceived as a process of internal colonialism (Chome, 2020).

Fig. 3 captures the prominence of squatter schemes in the allocations of the 1990s. Seventy-seven percent of all squatter schemes (by number of schemes) was allocated after 1990, and of these schemes, over half (55%) were created in the 1990s, mostly in Eastern and Coast Provinces.³³ These schemes account for 27% of all land allocated after 1990 and 38% of all scheme beneficiaries. Plots allocated on squatter schemes were, on average, about one-third the size of plots on conventional schemes.³⁴ In 80 schemes out of the 533 in our dataset, settlers received less than 1 ha per settler (i.e. per household). Seventy of these were squatter schemes allocated at the Coast after 1990.

Average soil quality, rainfall levels, and plot sizes were below those of the settlement schemes created in the Jomo Kenyatta years. The importance of squatter schemes at the Coast and in Eastern Province in the overall sample of schemes goes far in accounting for the general decline in average plot size and plot quality. Yet plot sizes and soil quality also appear to decline over time for Rift Valley Province schemes. In the new schemes in Trans Nzoia and Nakuru, average plot sizes were smaller than they were on the earlier Rift Valley schemes (see below) and the land was less suited to agriculture. This supports Valerie Golaz’s argument (1997) that more and more marginal lands were brought into production, including as official settlement schemes, as Kenya’s land frontier closed in the 1990s.

In the last two years of the Moi era, between 2000 and 2002, ten new schemes in Nakuru, Laikipia, and Trans Nzoia accounted for two-thirds of the land allocated in this period (i.e., a total of almost 40,000 ha, granted to 8700 households). The Chepyuk Phase I scheme in Mt. Elgon in Western Province (3600 ha, 2200 families) was allocated in 2002. Also created in the run-up to the 2002 elections was the huge Wananchi Scheme in Taita Taveta in Coast Province (9000 ha, 2252 families).³⁵

The Moi era was marked by shifts in the macro-political context, the geographic locus of scheme creation, the ethnic identity of beneficiaries, and the tenure status of the land designated for new settlement schemes. Jomo Kenyatta’s government had purchased freehold and leasehold properties from departing European settlers and then allocated this

²⁹ They reported that approximately 39% of the officially gazetted forest had been illegally excised and recommended that most of the illegally-allocated land be revoked. See also Médard (2009, note 15), Klopp (2012), and Di Matteo (2019).

³⁰ See *Kenya Hansard*, Parliamentary Debates, 12 August 1997, p. 1821–3, “Allocation of Plots in Nguu Ranch” [Makueni].

³¹ Three of four Makueni seats were narrowly won by the ruling party, KANU, in 1992 (Throup & Hornsby, 1998, pp. 208, 317, 333, 503–6, 574).

³² Crown Land served as the land bank for distribution of plots to politically well-connected persons, regime allies, members of the provincial administration, and state agents (Kanyinga, 2000).

³³ Of these, almost half (45%) were allocated after 2000.

³⁴ That is, 7.7 acres vs. 23 acres.

³⁵ Taita Taveta district’s largest landowner, the Kenyatta family, is the family of Uhuru Kenyatta, KANU’s 2002 presidential candidate. On pre-election land allocations, see Oucho (2002), Ndungu (2004), Kanyinga (2009), and Klopp (1999).

state-owned land to Kenyan settlers. Moi era schemes, by contrast, involved the colonization of public lands – forests, natural reserves, state ADC farms, and other state land. There was a shift in the formal justification and purposes of settlement and resettlement as well. The relatively well-funded rural settlement programs of the 1960s and 1970s aimed, formally and to a considerable extent in practice, to create “a middle peasantry.” Under Moi, there was a clear swing away from explicit developmentalism and toward land allocations that aimed at more immediate and politically-strategic responses to political claims on the state for land and territory. As one interviewee in a land-related government agency put it, “The old schemes had to do with farming. The new schemes have no economic value – they are just for settling landless people.”³⁶ The rationale was essentially welfarist, rather than developmental. Plot sizes were smaller than they had been in the earlier era, and state support in the form of agricultural extensive services, loans, marketing, etc., was absent. Scheme locations show that this happened mostly where land allocations promoted the regime’s electoral strategy, especially in key electoral constituencies in Rift Valley and Eastern Provinces. Compared to the settlement programs of the Kenyatta era, scheme creation in the Moi years appears to be more ad-hoc and more narrowly linked to partisan and electoral drivers.

5. Settlement schemes since 2002

In the third time period, from 2002 to 2016 under the Mwai Kibaki and Uhuru Kenyatta governments, settlement schemes were used again to assuage land hunger and defuse rural unrest. Electoral concerns appear to have been consistent with longer-term strategies to use land allocation in order to engineer a more durable political settlement to ethnic-cum-territorial conflicts in the farming districts and adjacent parts of the Rift. The economic policy justifications of the early post-independence years were replaced by not only political and welfarist justifications for continued creation of settlement schemes, but also justifications framed in terms of neutralizing threats to domestic peace and security.

Electoral defeat of the Moi regime in 2002 and the victory of a reform coalition headed by Mwai Kibaki, a stalwart of the Central Province/Kikuyu political establishment, ushered in a new kind of government

schemes are registered, agents of the territorial administration take over responsibility for local governance. If Survey of Kenya has produced a Registry Index Map, settlers can apply for land titles once their loans from the government are paid off.

Some schemes that were created (formally) and registered after 2002 in the Rift Valley were actually legalizations of forest invasions and ad hoc scheme designations of the 1990s. The fact of post hoc formalization shows that the pace, extent (in hectares), and location of scheme creation in the Rift, as at the Coast and in Eastern Province (see below), was only partially guided by premeditated state design. Fragmented political contestation and localized strategies of territory and resource capture pressured government authorities at the ministerial level to act. Ten settlement schemes in Molo and Naivasha are listed as having been created between 2003 and 2007 (48,000 ha of a total of 82,500 allocated during these years).³⁷ The Kibaki-era schemes contributed to the re-engineering of ethnic settlement patterns in Nakuru district, segregating ethnic groups by administrative units and electoral wards. Other Kibaki-era schemes were designated in Makueni Province and the Coast. Many of these, like many in Nakuru, still lack Registry Index Maps (RIMs) are thus still ineligible for land titling.³⁸

The 2007–2008 re-election of Kibaki was accompanied by election-related violence that resulted in more ethnic cleansing and displacement in the core farming districts of Rift Valley Province, mostly around Nakuru.³⁹ Part of the government’s response was creation of new settlement schemes for the displaced. This included the 2009 creation of the Banita settlement scheme in Nakuru North, a large conventional scheme covering 5600 ha divided into parcels that were allocated to almost 2000 families. It remained unregistered in 2017. A small number of large schemes were founded in the northern districts of Rift Valley Province for constituencies that were considered to have been slighted in the land allocations of the 1960s and 1970s: in Trans Nzoia (4000 ha, 1680 settler households), Nandi (3000 ha, 950 households), Laikipia (7300 ha, 3000 households), and Chepyuk Phase II and III in Bungoma (4000 ha, 2300 households). Many of these remain in legal limbo. They are registered, but are not eligible for titling because Survey of Kenya has not released Registry Index Maps. After 2008, there was a further effort to create new settlement schemes in localities affected by electoral violence at the Coast.

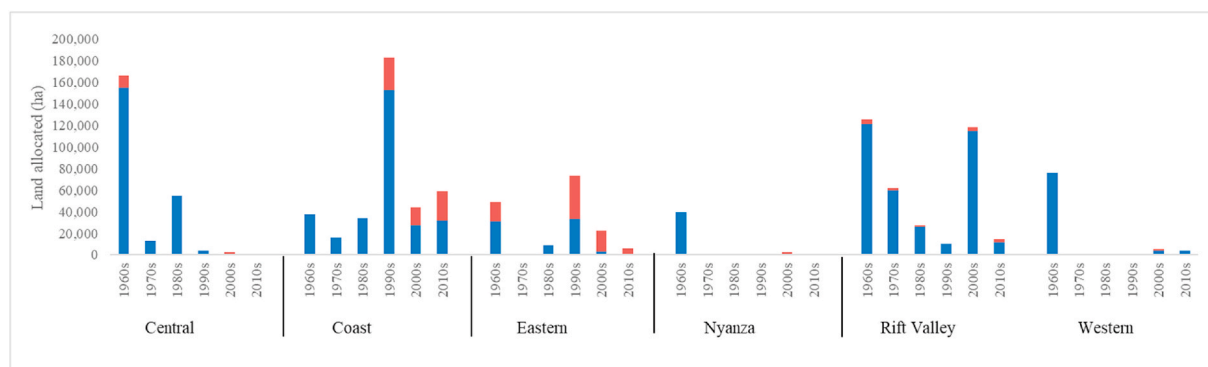


Fig. 3. Land allocated by scheme type, conventional v. squatter (in ha) by province/decade.

Note: Blue bars: conventional schemes; Red bars: squatter schemes.

Source: MoLPP (2016); Lukalo & Odari (2016).

land activism in Kenya. Efforts to regularize the status of illegal and ad hoc settlement schemes created in the 1990s, and to resolve the status and claims of those who lost or gained land in the forest evictions, forest occupations, and electoral violence of the 1990s, provided a strong impetus to the creation and registration of settlement schemes. When

³⁶ Authors’ interview with survey professional in land-related government agency Nairobi, 19 September 2016.

³⁷ Examples are Saino (2462 families) and Ndoinet (835 families) settlement schemes in Kuresoi N. and Kuresoi S. [Molo], respectively. Both were “gazetted as settlement schemes” in 1997 with 5 acres allocated per family, but not registered until 2005, when deeds were allocated. Caveats were imposed on and off over this period and then imposed permanently in 2013.

³⁸ Schemes for which we have no RIMs appear as dots rather than as polygons on Maps 1 and 2.

³⁹ See Ouch (2002), Anderson and Lochery (2008), and Boone (2011).

Settlement schemes not only allocated land to the displaced, but also segregated rival politicians' constituencies into separate electoral districts and divided territory along ethno-partisan lines.

Efforts of the post-2002 governments to stabilize volatile land politics in the Rift by mapping and formalizing irregular schemes created in the 1990s have only been partially successful, as shown in Fig. 4, which traces the history of scheme registration since 1962. It picks up the major push undertaken by the Kibaki administration starting in 2003 to register Rift Valley Province schemes that had been created in the 1990s. Even with this effort, 20% of the schemes in the districts/counties of (the former) Rift Valley Province remained unregistered in 2016 (Table 1). Many unregistered schemes in the Rift are "caveated," or frozen in a state of legal limbo due to disputes around forest degazettement. Table 1 shows that unregistered schemes also constitute a large proportion of all schemes in the former Coast and Eastern provinces – about 30% for both. Registration opens the door to titling, but does not guarantee it. Titling can be blocked by scheme caveats, hold-ups around official mapping, settlers' inability to discharge their loans, or parcel-specific disputes over ownership. If MoLPP interviewees in 2019 are correct in estimating that titling is complete on approximately 40% of registered schemes, then there remains a property rights gap of very considerable proportions on the Kenyan settlement schemes (Albertus, 2021; Hassan & Klaus, 2019; Boone, 2014; Holland, 2017; Lund, 2020).

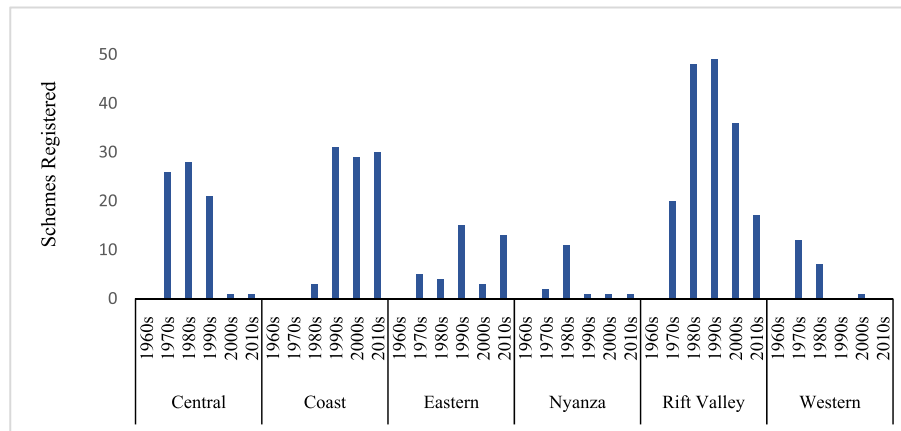


Fig. 4. Number of schemes registered by province and decade.

Source: MoLPP (2016); Lukalo & Odari (2016).

Table 1

Scheme registration by decade and province.

	1960s	1970s	1980s	1990s	2000s	2010s	Not registered	Total Registered
Central	0	26	30	21	1	1	18	79
Coast	0	0	3	30	30	31	40	94
Eastern	0	9	4	15	3	12	12	43
Nyanza	0	2	15	1	2	1	3	21
Rift Valley	0	19	48	48	40	15	40	170
Western	0	12	7	0	1	0	3	20
Total	0	68	107	115	77	60	116	427

Source: MoLPP (2016); Lukalo & Odari (2016).

By the official MoLPP data, total land hectares allocated in the 1990s, 2000s, and 2010s exceeds the total allocated in the 1960s and 1970s. Yet the story of the post-1990s schemes is, as we have seen, different from the story of the earlier schemes. A fall in average plot size was already noted for the 1990s; this pattern holds for schemes allocated after 2000 (Fig. 5). Average plot size on post-1990 schemes is about 2 acres, below the minimum threshold for a family farm to provide a sustainable livelihood anywhere in Kenya.

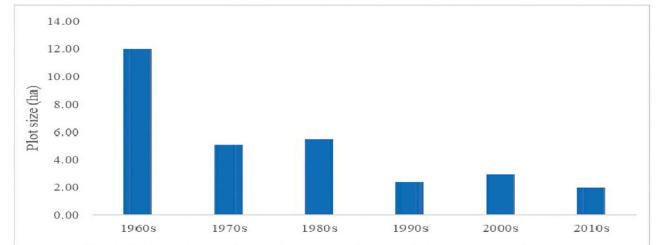


Fig. 5. Average plot size by decade.

Source: MoLPP (2016); Lukalo & Odari (2016).

Change in average plot size in schemes for Central, Coast, Eastern and Rift Valley provinces is depicted in Fig. 6.⁴⁰ Even in the former Rift Valley province, where average parcel sizes were the largest in the 1960s and in the 2000s (through 2016), the size of the average allocation in the 1990s (2.3 ha) and 2000s (3.9 ha) was less than a third of what it was in the Kenyatta era (13.0 ha). These data support the argument that, in terms of what the government is delivering to allottees, scheme creation since 1990 has aimed to deliver basic welfare support in the form of land access to very poor people, rather than to promote agricultural production or rural development.

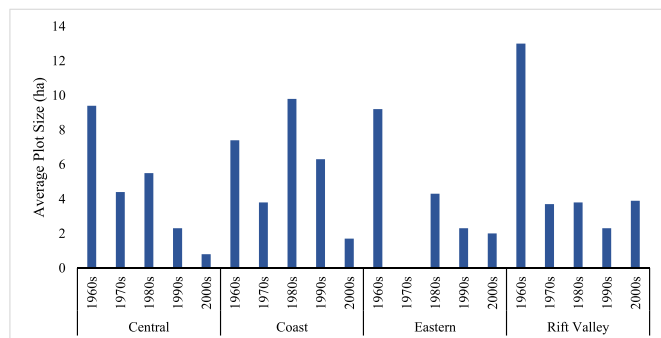


Fig. 6. Average plot size by province/decade (through 2016).
Note: Total scheme area divided by number of settlers (i.e. households).
Source: MoLPP (2016); Lukalo & Odari (2016).

The first generation of settlement schemes, created in the 1960s and 1970s, also appear to be carrying ever-larger populations. Substantial debt burdens carried by the settlers on the early schemes have contributed to land subdivisions and sales (see Muhia, 1977; Leo, 1981, 1984). Large population increases on early schemes also resulted in parcel fragmentation, production shifts in favor of household self-provisioning, and growing reliance on wage incomes and remittances. Although MoLPP data do not offer any information about change in scheme populations over time, our georeferenced dataset makes possible some exploratory analysis. We calculated population estimates for some scheme blocs from gridded population data for 2010 and 2015. We compared the recent population figures with two estimates of settler household size at time of plot allocation: 5.5 persons per plot, a planning estimate from the 1960s, and 10 persons per plot, which appears in some empirical studies of the era (counting farm workers and tenants).⁴¹ By this method, it appears that populations on 1960s schemes in Kiambu (in former Central Province) increased approximately three-fold between original scheme allocation and 2015, and that populations on 1960s schemes in Bungoma and Lugari (in former Western Province) have grown at more than twice that rate.⁴² While agricultural intensification and off-farm incomes can in theory contribute to investment and rising agricultural productivity on the

schemes, many observers in Kenya see high rates of land subdivision and land sales as a leading cause of the declining viability of farms, reductions in household well-being, and growing food insecurity for many settlement scheme families.⁴³

Land policy moved again to center stage in national political debate under President Kibaki, catalyzed by the release of the 2004 *Report on the Commission of Inquiry into the Illegal/Irregular Allocation of Public Land*, known popularly as the Ndungu Commission Report, which featured detailed documentation and critique of the elite land-grabbing and forest excisions of the 1990s (Republic of Kenya, 2004).⁴⁴ Under Kibaki, there was heated and wide-ranging public debate of a draft National Land Policy that aimed *inter alia* at quelling historic land disputes, ending elite land grabbing, and achieving a more just allocation of land. Land clauses figured centrally in the new constitution that was approved by voters in 2010. Among other things, it mandated a sweeping revision of national land laws (by 2016) and created the National Land Commission as a research and watchdog agency.⁴⁵ The new constitution empowered the government to set maximum and minimum land holding sizes, and its implementing legislation established new procedures for the creation of settlement schemes.⁴⁶

In debates over and implementation of the 2010 constitution, questions about the existing settlement schemes and the future of land allocation policy came to the fore.⁴⁷ The land clauses in the new constitution were taken by many as a renewal of the social contract around land – that is, a renewal of the government's promise of equitable land distribution, and to ensure access to land for all Kenyans. It is ironic that in a political and economic context of increasing demand for land and land redistribution, the smallholder settlement schemes themselves appear not as the islands of prosperous peasant farming that they were originally envisioned to be, but rather as rural areas in need of redress and reform. Policy and political tensions among the land allocation options that have driven Kenya's land policy in the past – allocation on the basis of the claims of separate, territorially-defined ethnic communities; allocation justified in terms of rural development; and land-granting to quell rural unrest and build state legitimacy – persist in the present debates.

6. Conclusion

The analysis above has layered geographic, historical, and scheme-attribute dimensions of Kenya's official smallholder settlement schemes to trace the arc of these land allocation programs over time. While the 1960s and 1970s goal of expanding a productive and progressive peasantry dropped off the agenda over time, the distributivist and political territory-building agendas that have driven scheme creation remain constant. This process cannot be understood in reductive terms as only driven by patronage politics or short-term electoralism. Rather, settlement schemes have played a key role in the longer-term “geopolitics” of regime construction, as land allocation via settlement schemes has contributed to the consolidation of electoral constituencies

⁴⁰ County/decades with one or two schemes only are dropped when calculating averages.

⁴¹ See footnote 26 on population estimates.

⁴² We used raster-format PLOS ONE satellite-generated population data (100 m resolution) for 2015 and NASA/CIESIN gridded population data for 2010. A more-fine grained analysis will be required for more robust conclusions. One challenge is that expansion of small “town centers” into towns or urban centers has transformed parts of many settlement schemes. We thank A. Linke for exploratory data analysis and drew upon Mauney, Scrivani, and Browne, 2019.

⁴³ See for example Muhia (1977), Ambwere (2003), Ndegwa (2012). Ambwere (2003, p. 58-9) documented parcel miniaturization on Lumakanda scheme in Western Province, where population density had increased from 19 persons per km² in 1969 to 369 per km² in 1999. He called for measures to promote the reconsolidation of parcels.

⁴⁴ See and Southall (2005). See also Manji (2012), Klopp (1999, 2002, 2012, Klopp and Lumumba (2017); Boone et al. (2019), Di Matteo (2019), and Manji (2020).

⁴⁵ See Syagga and Kimuyu (2016), Kenya Land Alliance (KLA) & Kamari-Mbote (2019, p. 23–25 *inter alia*), and Mwangi (2014).

⁴⁶ The NLC's Research Division obtained the digitized versions of the more than 1500 Registry Index Maps that constitute the empirical base of the present paper. The NLC also secured authorization for the creation of a publicly available database of scheme boundaries.

⁴⁷ See Manji (2020), D'Arcy and Nistotskaya (2019), and Ndegwa (2012).

and ethno-regions linked to successive national regimes (Bouquet, 2011; Médard, 1999).

Scheme creation has been part of an archetypal process of state territorialization that works through construction of internal boundaries at different geographic scales to manage social tensions around resource use and political representation, as theorized in generic terms by Sack (1986) and Vandergeest and Peluso (1995). Yet Kenyan settlement scheme history also underscores the extent to which state territorialization, even in core regions of the national polity, can be a contested process shaped by demands from below. In Kenya, settlement scheme creation over time has shaped and been shaped by contestation around a social contract in which government is positioned as the guarantor of land access to deserving citizens. The post-1990 persistence of rural settlement schemes as a policy tool of government has helped validate and reinforce the moral and political legitimacy of grievance-backed land claims that date back to colonial land dispossession, and an ideological framing of state legitimacy in which the Executive Branch can and should grant state land to worthy individuals and communities. This is visible in contemporary land debates. “How will the government settle all of today’s landless?” is a prominent and recurrent question in land policy discussions today.

Settlement scheme programs in Kenya since the 1960s have reproduced and compounded complex political and economic questions around both land and territory. Better understanding of the 533 settlement schemes that exist today can play a role in responding to these complex questions. The existing schemes pose challenges of land use and governance that have implications for contemporary demands, and for new models for responding to landlessness and politically-driven displacement. Future researchers can use the digitized and georeferenced dataset of settlement scheme locations that we have introduced here, combining it with other data to generate new knowledge about patterns of population density change, internal migration, agricultural production and food security, land degradation, and changing patterns of land tenure on the existing schemes.

The present study links to wider issues in political geography by highlighting the vexing nexus between land allocation policies and territorial politics in African countries. Settlement schemes pose particular kinds of challenges in Kenya and in other African countries – including Rwanda, Uganda, Zimbabwe, and Ethiopia – in which governments have used state-led land allocation programs in the last two decades in post-conflict settings, to promote restorative justice, or in service of rural development.⁴⁸ The connection between territorial politics and the political constituency-building that often accompanies such policies helps to explain their politicization, and their liability to political challenge in the event of regime change. The Kenyan case, like these other country experiences, underscores the fact that the kind of social engineering that combines land patronage and the politicized structuration of national territory is not a thing of the past.

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